

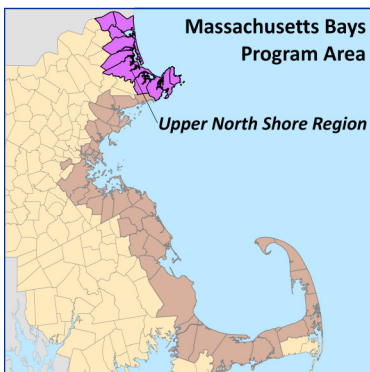
Photos: C. McCauley, MBP

COMMUNITIES WITHIN OUR UPPER NORTH SHORE REGION

Amesbury
Essex
Gloucester
Ipswich
Newbury
Newburyport
Rockport
Rowley
Salisbury

ADDITIONAL COMMUNITIES SERVED

Boxford
Merrimac
Georgetown
Groveland
West Newbury



Estuaries: Where Rivers Meet the Sea

A unique environment with many values, an estuary is a place where fresh water from rivers flows into the salt water of the sea. Estuaries offer protection from storm surge and flooding events, play a large role in improving water quality by removing pollutants and excess nutrients, and harbor countless species, many of which are commercially valuable. They also support a host of recreational uses such as boating, swimming, fishing, shellfishing, birding, and beach-going.

Despite these considerable values, estuaries are threatened in many ways, most of which are connected to human actions. Pressure from hundreds of years of an expanding population and associated development is taking a toll on the health of estuaries and their ability to maintain their ecological integrity.

The Massachusetts Bays Program and the Upper North Shore

In 1987, an act of Congress established the National Estuary Program (NEP) under the Clean Water Act to address problems facing these valuable coastal resources. The Massachusetts Bays Program (MBP) became a part of the NEP in 1990, highlighting the region as an “estuary of national significance.” Stretching from the New Hampshire border to the tip of Cape Cod, the 50 coastal communities in the region are home to over 1.7 million people. The MBP’s mission is to protect and enhance the coastal health and heritage of Massachusetts and Cape Cod Bays.

The MBP’s priorities are to:

1. Protect and enhance coastal habitat
2. Reduce and prevent stormwater pollution
3. Protect and enhance shellfish resources
4. Manage local land use and growth
5. Manage municipal wastewater
6. Manage marine invasive species
7. Monitor marine waters
8. Adapt for projected impacts of climate change



Photo: S. Gerah

The mouth of the Ipswich River, which drains part of the Great Marsh, the largest salt marsh in New England.

Because of its large size and geographic diversity, the MBP area is divided into sub-regions that are served by regional coordinators working to address coastal planning needs at the local level. The MBP Upper North Shore regional program is hosted by the Merrimack Valley Planning Commission with guidance from coastal communities and topical experts represented on the Eight Towns & the Bay Committee.

MBP Upper North Shore Coordinator

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Highlights - Upper North Shore Region

As regional MBP coordinators, the Merrimack Valley Planning Commission and the Eight Towns & the Bay Committee work with a wide range of partners and interests in the region. Accomplishments include:

- ◆ **Phragmites Ecology** - Measurements are being collected on salt marsh pore water, as well as creek and marsh salinity, shedding further light on *Phragmites* ecology and its impact on native marsh vegetation and hydrology.
- ◆ **Phragmites Control** - In an effort to control *Phragmites* in the Great Marsh, identification, assessment, and control of 500 acres of this invasive reed is being conducted. Work to date has included burning, chemical treatment, and monitoring.
- ◆ **Kayakers Guide** - A web-based resource was developed to enhance the experience of recreational paddlers, providing information about kayak trails, water access, parking, cultural sites, and safety tips.
- ◆ **Habitat Restoration** - Coastal wetlands are being improved through restoration projects including Newman Road and Larkin Mill Dam removal and projects at Town Creek, Salisbury; Newbury; Argilla Road, Ipswich; Island Road, Essex; and Mill River, Gloucester.
- ◆ **Understanding Tidal Flushing in an Estuary** - Working with regional partners, a dye tracer assessment was conducted to identify water circulation patterns in the Merrimack River, resulting in a better understand of flushing patterns within the estuary
- ◆ **Greenscapes** - Information about ecologically-friendly landscape practices and techniques are shared with participating communities by the Greenscapes North Shore Coalition in support of stormwater pollution reduction and wise water use by homeowners.
- ◆ **Low Impact Development Outreach** - In order to reduce stormwater and promote habitat protection, educational presentations and site tours related to Low Impact Development (LID) are delivered to public officials, developers, and homeowners. Focal projects include Ipswich's Partridgeberry Lane LID subdivision; a native plant demonstration site at the Ipswich Group Home; and a green roof, raingardens, and rainbarrels at the Ipswich River Watershed Association office.
- ◆ **Stormwater Permit Assistance** - Assistance with stormwater outreach, mapping, outfall assessment, and mitigation prioritization is offered to municipalities in support of community compliance with National Pollutant Discharge and Elimination System Phase II permit requirements.
- ◆ **Anadromous Fish Run Monitoring** - As part of a multi-river fish monitoring program on the North Shore, monitoring and outreach efforts on anadromous fish in the Alewife Brook, Essex are ongoing.



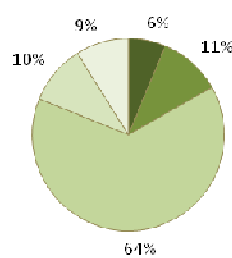
Burnham's boat yard in Essex is just one of many marine-dependent businesses in the region .

Photo: S. Garath

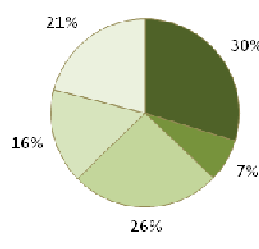
KEY COLLABORATORS

- Association of Great Neck
- Chebacco Lake Association
- Ducks Unlimited
- Eight Towns & the Bay Committee
- Essex County Forum
- Essex County Greenbelt Association
- Essex National Heritage Commission
- Great Marsh Coalition
- Great Marsh Land Protection Team
- Great Marsh Restoration Team
- Greenscapes North Shore
- Gulf of Maine Institute
- Ipswich River Watershed Association
- Marine Biological Laboratory, Plum Island Ecosystems Long Term Ecological Research Program
- Massachusetts Audubon Society
- Massachusetts Corporate Wetlands Restoration Partnership
- Massachusetts Department of Conservation and Recreation, Salisbury Beach and Sandy Point Reservations
- Massachusetts Department of Environmental Protection
- Massachusetts Division of Ecological Restoration
- Massachusetts Division of Marine Fisheries
- Massachusetts Office of Coastal Zone Management
- MA / NH / ME Invasives Working Group
- Merrimack River Watershed Council
- Metropolitan Area Planning Commission
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service
- Parker River Clean Water Association
- Piscataqua Region Estuaries Partnership
- Salem Sound Coastwatch
- The Trustees of Reservations
- U.S. Fish & Wildlife Service, Parker River National Wildlife Refuge

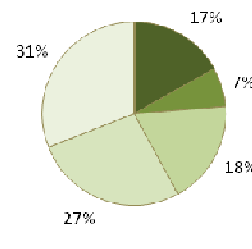
Massachusetts Bays Program Regional Characteristics



Human Population



Shoreline Length



Land Area

- UPPER NORTH SHORE
- SALEM SOUND
- METRO BOSTON
- SOUTH SHORE
- CAPE COD